

# bitter

- Gravity **11 BLG**
- ABV **4.4 %**
- IBU **40**
- SRM **12.3**
- Style **Special/Best/Premium Bitter**

## Batch size

- Expected quantity of finished beer **11 liter(s)**
- Trub loss **5 %**
- Size with trub loss **11.6 liter(s)**
- Boil time **60 min**
- Evaporation rate **10 %/h**
- Boil size **14 liter(s)**

## Mash information

- Mash efficiency **75 %**
- Liquor-to-grist ratio **3 liter(s) / kg**
- Mash size **7.4 liter(s)**
- Total mash volume **9.9 liter(s)**

## Steps

- Temp **52 C**, Time **10 min**
- Temp **63 C**, Time **65 min**
- Temp **76 C**, Time **10 min**

## Mash step by step

- Heat up **7.4 liter(s)** of strike water to **57.3C**
- Add grains
- Keep mash **10 min** at **52C**
- Keep mash **65 min** at **63C**
- Keep mash **10 min** at **76C**
- Sparge using **9.1 liter(s)** of **76C** water or to achieve **14 liter(s)** of wort

## Fermentables

| Type  | Name                        | Amount         | Yield | EBC  |
|-------|-----------------------------|----------------|-------|------|
| Grain | Pale Malt (2 Row) UK        | 2.4 kg (97.2%) | 78 %  | 6    |
| Grain | Black Barley (Roast Barley) | 0.05 kg (2%)   | 55 %  | 1300 |
| Grain | Caramel/Crystal Malt - 120L | 0.02 kg (0.8%) | 72 %  | 236  |

## Hops

| Use for | Name               | Amount | Time     | Alpha acid |
|---------|--------------------|--------|----------|------------|
| Boil    | Challenger         | 10 g   | 45 min   | 8.1 %      |
| Boil    | East Kent Goldings | 15 g   | 20 min   | 6.2 %      |
| Boil    | Challenger         | 15 g   | 15 min   | 8.1 %      |
| Dry Hop | East Kent Goldings | 15 g   | 4 day(s) | 6.2 %      |
| Dry Hop | Challenger         | 15 g   | 4 day(s) | 8.1 %      |

## Yeasts

| Name        | Type | Form | Amount | Laboratory |
|-------------|------|------|--------|------------|
| Safale S-04 | Ale  | Dry  | 9 g    | Safale     |